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PATENT SPECIFICATION



Convention Date (Luxemburg) : Feb. 23, 1937.

Application Date (in United Kingdom) : Feb. 22, 1938.

Complete Specification Accepted : Oct. 13, 1938.

493,745

No. 5535/38.

COMPLETE SPECIFICATION

Improvements in and relating to Conductor Rails

I, EUGENE HAMILIUS, of 52, Rue de Longwy, Luxemburg, Grand-duchy of Luxemburg, a citizen of the Grand-duchy of Luxemburg, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

For conducting the current in the case of electrically operated railways and other motor vehicles, such as travelling cranes, loading installations and the like, copper contact lines are in many cases used.

These lines have the disadvantage, however, that the safety of operation may at any time be endangered through the contact lines breaking, this being possible owing to various causes, such for instance as installations working at high pressure, the weight of snow, the fall of a mast carrying the line, and the like.

For these reasons it is advisable in all cases, in which it is possible for technical reasons, to employ a fixed conductor system in the form of a conductor rail.

A number of current conducting profiles are already known, thus for instance that of German Patent 583 929, Class 20 Gr. 14. In these known arrangements the current conductor element (of copper) is always rolled on to a special iron profile, that is to say, the upper edge of the web must be of a bulbous or dovetail shape, for enabling the copper element to be anchored. These methods have two main disadvantages. In the first place, for the production of current conducting rails special iron profiles are required, which greatly increases the cost of manufacture. In the second place, in the known manufacturing methods fixing is ensured only in the cross-section of the rail, whilst a longitudinal displacement of one part of the rail with respect to the other cannot be prevented. Moreover, there is no actual anchoring of the two parts through an interengagement of the two materials, but only an engagement of one round the other along the surface.

The present invention has for its object to provide a current conducting rail which is made with ordinary commercial rolled iron sections which therefore require no special rolling. The part of the

[Price 1/-]

iron section to which the conductor element is to be attached is provided with notches, grooves, incisions or the like, the operation of notching or grooving, which is preferably effected by machining, being so carried out as to force the material out on both sides, whereupon over and on to the two sets of projections thus formed the lateral flaps of the current conductor element (made of copper or some equivalent current conducting material) are pressed in in any suitable way, so that the anchoring of the two parts to one another over the entire length of the rail is also ensured through the mutual interengagement of the material of the two parts.

The notches or the like may be at right angles or at an inclination to the length of the rail and they may also be crossed or of angular shape and the like.

For illustrating what has been stated above the construction is shown by way of example in the accompanying drawing of a current conducting rail, a commercial I shaped iron girder being used. In this particular example the conductor is secured to the top of the rail.

Fig. 1 is a cross-section through the current conducting rail,

Fig. 2 is a longitudinal view of a portion of this rail.

Fig. 3 shows a portion of the rail in perspective view.

a is the web or iron girder *b* the current conducting head of copper or equivalent conductive material; *c* indicates the two flaps of the current conducting head, which are pressed on to the web; *d* are the grooves or notches; *e* the material forced out on either side of each groove, which forms the projections for anchoring the current conducting head *b* to the web *a* of the iron girder.

This illustration of a constructional example by no means exhausts the scope of the invention which includes all constructional forms exhibiting the same features.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A current conducting rail having a

conductor element attached thereto, characterised by the feature that the part of an ordinary commercial rolled iron section to which the conductor element is to be attached is provided with notches, grooves, incisions or the like, the material forced out on either side forming two sets of projections, over and on to which the lateral flaps of the conductor element are pressed.

2. A current conducting rail as claimed in Claim 1, characterised by the feature

that the grooves or notches or the incisions of any other kind are formed at right-angles to or at an inclination to the length of the rail, crossing one another or angle-shaped.

3. The improved current conducting rail, substantially as hereinbefore described with reference to the accompanying drawing.

Dated this 17th day of February, 1938.

MARKS & CLERK.

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Fig. 1.

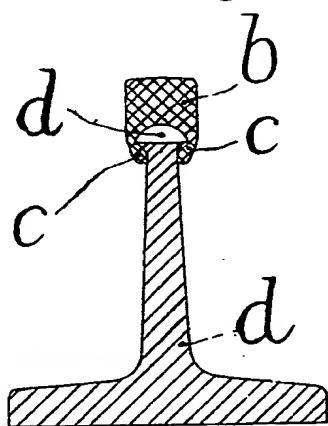


Fig. 2.

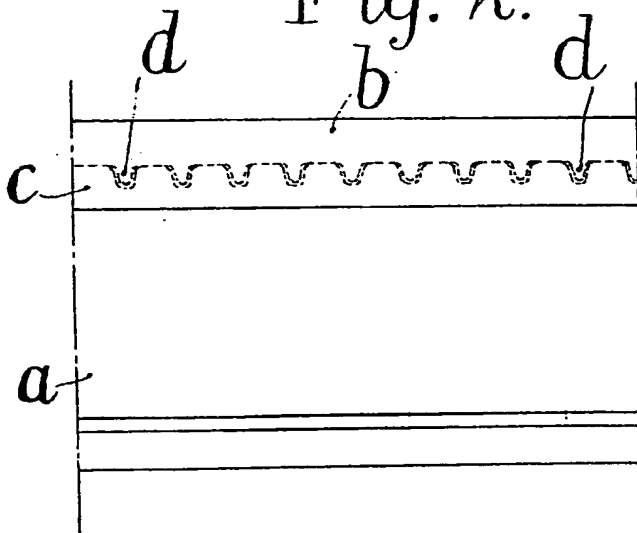
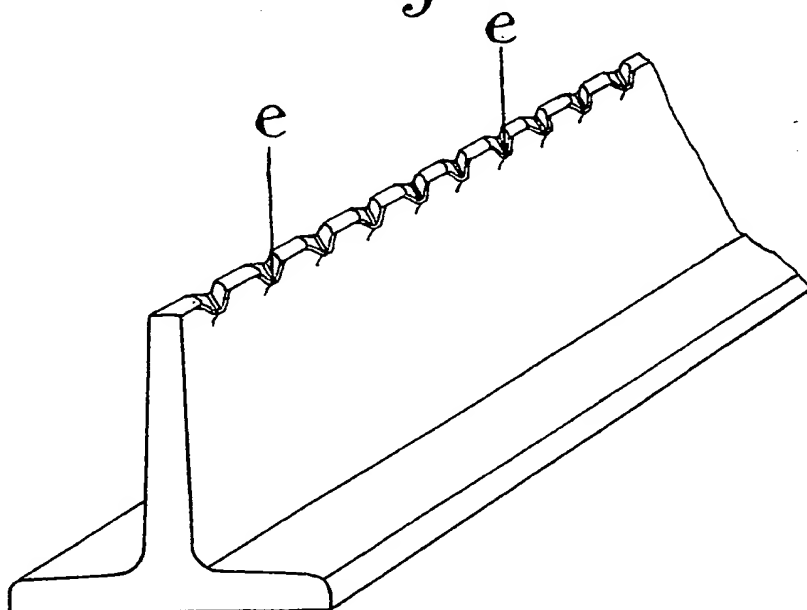


Fig. 3



[This Drawing is a reproduction of the Original on a reduced scale.]

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